

**IN THE CLAIMS:**

**Please cancel** claims 2, 5-7, 10, and 13-15. **Please also amend** claims 1, 3, 4, 9, 11, and 12, and add new claims 19-20, as shown in the complete list of claims that is present below.

1. (currently amended) A synchronization error detection circuit for detecting errors due to faulty synchronization with a received pulse train, comprising:

a transition detector for detecting rising or falling transitions of pulses constituting the received pulse train;

a cyclic number generator for generating numbers that repeat cyclically over a predetermined time corresponding to a rate at which said pulses arrive in the received pulse train;

a selector for selecting a number generated by the cyclic number generator when a transition is detected by the transition detector, thereby associating the selected number with the detected transition; and

a synchronization error detector for ~~carrying out a predetermined operation on~~ using the numbers selected by the selector to calculate average values over groups of transitions, and for comparing successive average values thus calculated with each other, thereby detecting synchronization errors.

Claim 2 (cancelled).

3. (currently amended) The synchronization error detection circuit of claim [2] 1, wherein the synchronization error detector includes a decision circuit that compares a difference between said successive average values with a predetermined threshold value, a synchronization error being detected when the difference exceeds the predetermined threshold value.

4. (currently amended) The synchronization error detection circuit of claim [2] 1, wherein the synchronization error detector includes an averaging circuit that, for each

group of transitions among said groups of transitions, takes differences between the selected number associated with a first transition in the group and the selected numbers associated with the subsequent transitions in the group, adds said differences to obtain a sum, divides the sum by the number of transitions in the group to obtain a quotient, and adds the quotient to the selected number associated with the first transition in the group.

Claims 5-7 (cancelled).

8. (original) The synchronization error detection circuit of claim 1, further comprising a retransmission request generator for sending a retransmission request to a transmitting source of said received pulse train when a synchronization error is detected.

9. (currently amended) A method of detecting synchronization errors in a received pulse train, comprising:

- detecting rising or falling transitions of pulses constituting the received pulse train;

- generating phase numbers that repeat cyclically over a predetermined time corresponding to a rate at which said pulses arrive in the received pulse train;

- selecting the phase number generated when each transition is detected, thereby associating the selected phase number with the detected transition; and

- using carrying out a predetermined operation on the selected phase numbers to calculate average values over groups of transitions; and

- comparing successive average values thus calculated with each other, thereby detecting synchronization errors.

Claim 10 (cancelled).

11. (currently amended) The method of claim [10] 9, wherein the predetermined operation further comprises:

taking a difference between a pair of said successive average values; and  
comparing said difference with a predetermined threshold value, a  
synchronization error being detected when the difference exceeds the predetermined  
threshold value.

12. (currently amended) The method of claim [10] 9, wherein using the selected phase  
numbers to calculate average values further comprises, for each group of transitions  
among said groups of transitions:

taking differences between the selected phase number associated with a first  
transition in the group and the selected phase numbers associated with the subsequent  
transitions in the group;

adding said differences to obtain a sum;

dividing said sum by the number of transitions in the group to obtain a quotient;

and

adding the quotient to the selected number associated with the first transition in  
the group.

Claims 13-15 (cancelled).

16. (original) The method of claim 9, further comprising sending a retransmission  
request to a transmitting source of said received pulse train when a synchronization error  
is detected.

17. (original) The method of claim 9, further comprising disabling detection of data  
errors in the received pulse train when a synchronization error is detected.

18. (original) The method of claim 9, further comprising disabling correction of data  
errors in the received pulse train when a synchronization error is detected.

19. (new) The synchronization error detection circuit of claim 3, further comprising a  
redundancy checking circuit for detecting data errors in the received pulse train, wherein

the synchronization error detection circuit disables the redundancy checking circuit when the synchronization error detector detects a synchronization error.

20. (new) The method of claim 9, further comprising:

selecting a first communication mode when the synchronization error detector detects synchronization errors less frequently than a predetermined threshold rate; and

selecting a second communication mode when the synchronization error detector detects synchronization errors more frequently than the predetermined threshold rate,

wherein the first communication mode emphasizes transmission speed more than transmission quality, and

wherein the second communication mode emphasizes transmission quality more than transmission speed.